| Work Order ID 107641 September-27-13 1:05:10 PM | | | | *107641* | | | | | | Page 1 | | | |
|--|------------------------|------------------------------|--------------------------|---|--------------------------|------------|-----|---|--------------|---------------|------------------|----------------|----|
| Item ID: Revision ID: Item Name: | D3953-21 Gas Spring Bi | racket | | Accept | *N900 | 040 | 100 | * s | etup S | Start Stop | *N: | S1* S2* | |
| Start Date: Required Date: Reference: | 10/14/13 10/14/13 | Start Qty: 2 Req'd Qty: 2 | , , , | | Cust Item I Customer: | D: | | | | | | | |
| Approvals: | | an: <u>µс5</u> | | | | ate: | | R | | Start Stop | | R1* R2* | |
| Sequence ID/ Work Center II | D | Operation Description | | Set Up/ Run Hours | Tool ID | Tool # | | Accept Qty | Rejec Qty | | Reject Number | Insp. Stamp | |
| Draw Nbr | Rev | vision Nbr | | *************************************** | | | | *************************************** | | | | | |
| D3953 | c | | | | • | | | | | | | | |
| *100 *100* Waterjet FLOW CNC Waterj | et | Men 1-Ct | it as per Dwg.D3953 | 0.00 | | | - | અપ | 0 | | | ImB-11- | 5 |
| 304 i 125° | | Prog | Rev:eburr if necessary | | | | | | | | | | |
| 110 | | QC2- Inspect par | rts off machine FAI/FAIB | 0.00 | | | | | | | | | |
| *110* QC | | Mer | no | 0.00 | | | - | ચપ | _0 | | | JM3-11- | -5 |

Quality Control

| NCR: Y | es / N | lo | | | WORK ORDER NON- | 100 | NFORI | MANCE / UPI | DATE | QA Closed: | Dat | 0. |
|---------------|---------------------------|-------------|------------|-------------------|-----------------------------|----------|---------------------|-------------------|------------|---------------|---------------|--------------------|
| | | | | | DISPOSITION | | | | AGAINST DE | | | e. |
| Work Orde | r: | | | | | , | | | | 1 | _ | |
| | | | | | Rework | 1 | | Skid-tube | Crosstube | | Water Jet | Engineering |
| Part N | lo | | | <u> </u> | Scrap | 1 | Machining Small Fab | | | 4 | d. Eng. Coor. | Quality |
| | | | | | Use-as-is | 4 | Thern | noforming | Finishing | Rec/Stor | e/Packaging | Other |
| NCR No. | | | | | Work Order Update | | | Large Fab | Composite | j | Supplier | |
| Root | | | | Descri | iption of work order update | T | nitial | Act | tion | Sign & | | |
| Cause | Da | te Step | Qty | , | or Non-conformance | Ch | ief Eng | Desci | ription | Date | Verification | QC Inspector |
| Doc/Data | _ | | İ | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | | |
| Operator | _ | | | | | | | | | | - | |
| Material | _ | | | | | | | | | | | |
| Setup | | İ | | | | | | | | | | |
| Other | _ | | | | • | | | | | | | |
| Process | _ | İ | | | | | | | | | | |
| Supplier | _ | | | | | | | | | | | |
| Training | | | | | | | | | | | | |
| Unapproved | <u> l</u> | | | | | <u></u> | | | | l | | |
| | | | | | | AUL | T CATE | GORY | | | | |
| Landir T | ng Gear | | | | General | | ۱ | | _ | ۱ | Г | ¬ |
| • | Bend | _ | | 0/5 | Bend | - | Grain | | | Ovalized | . , | Pressure/Forced |
| | _ | e Not Conc | entric to | ^{0/5} - | BOM/Route | - | Hardwa | | <u> </u> | Over/Under | - | Temperature/Cure |
| } | Cracl | | • | - | Broken/Damaged | - | 4 ' | ion Incomplete | | Part Incorred | | Weld |
| • | | ed/Crimpe | a | <u> </u> | Burrs | \vdash | 4 | tions Incomplete/ | Unclear | Part Lost/Mi | ssing [| Wrong Stock Pulled |
| ļ | Cuffs | | | - | Contamination | - | 4 | enance | - | Part Moved | Vrong | |
| | — | Treat | in Tuba | - | Countersink | \vdash | Mislabe | | <u> </u> | Positioned V | | Othor |
| | _ | ction Strip | ııı ıube | - | Cut Too Short Drill Holes | \vdash | Misrea Offset | u | | Power Loss/ | ourge [| Other |
| | _ `` | es in Bend | · Evterie: | <u> </u> | → | - | 4 | Calibration | | | | |
| 1 | Torque Waves in Extrusion | | |)(1 | Drawing | | Jour or | Campration | | | | |

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| Work Ord September-27-1. | | | | *107 | 7641* | | | | | | aa Maanaana inta meessaan ee e | Page 2 | |
|--|------------------------|--------------------------------------|----------------------|-----------------------------|--------------------------|------------|--------------|--------------|------------|---------------|--------------------------------|----------------|-----|
| Item ID: Revision ID: Item Name: | D3953-21 Gas Spring Br | racket | | Accept | *N900 | <u>040</u> | 100 |)* | Setup | Start Stop | 171. | S1* S2* | |
| | 10/14/13 | Start Qty: 20.00 Req'd Qty: 20.00 | *2(*2(| | Cust Item I Customer: | ID: | | | | | IV. | 7/ | |
| Approvals: | Process Pla | nn: | Date: | | | ate: | | | Run | Start Stop | "1711 | R1* | |
| Sequence ID/ Work Center II | D | Operation Description | | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accep Qty | t Re Qt | • | Reject Number | Insp. Stamp | |
| *120 *120* QC Quality Control | | QC8- Inspect parts - secon | nd check | 0.00 DAS 27 0.00 9-89 | Xo | | | 24, Com | | | | | |
| 130 *130* Small Fab | | | | 0.00 | | | 6 | 24% | | | | 13/11/ | D O |
| Small Fab | | Memo 1- CHAMFE | R HOLE AS PER I | | | | | | | | | ′ / | |
| | | 2- DEBURR | IF NECESSARY | DAS | | | | | | | | | |
| 140 * 4 4 0 * | | QC5- Inspect part comple | eteness to step on W | 7/O 0.00 27 9-89 | | | | 24 | | | | | |
| *140* | | Memo | | 0.00 \$ 1) | 06 | | | <u> </u> | | | | | |

0.00 B 1) 06

Quality Control

| | | | | | | | | | DQA: | Date: | |
|---|-------------------------------------|--|-----|--------|---|----------------------------|--|---|--|---------------------------|---|
| NCR: | res / | No | | | WORK ORDER NON-C | CONFOR | MANCE / UP | DATE | QA Closed: | Date: | |
| Work Orde | er: | | | | DISPOSITION | | | AGAINST DE | | | |
| Part N | No | | | | Scrap Machining Small Factoring Small Factoring Finishing | | | Crosstube Small Fab Finishing Composite | Pro Rec/Sto | Engineering Quality Other | |
| Root | | | | Descri | ption of work order update | Initial | Ac | tion | Sign & | | |
| Cause | Da | te Step | Qty | | or Non-conformance | Chief Eng | Desc | ription | Date | Verification | QC Inspector |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved | | | | | | | | | | | |
| | | | | | | AULT CATE | GORY | | | v | |
| Landi | Centre Not Concentric to O/S Cracks | | | o/s | General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink | Instruc Maint Mislab | tion Incomplete tions Incomplete/ enance eled | 'Unclear | Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned N | ct sissing Vrong | Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled |
| | Insp | Inspection Strip in Tube Cut Too Short | | | | Misrea | d | | Power Loss/ | 'Surge | Other |

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

107641

Page 3

September-27-13 1:05:10 PM

Required Date: 10/14/13

Item ID:

D3953-21

10/14/13

QC:

Accept

N900040100

Setup Start

Revision ID:

Item Name: **Start Date:**

Gas Spring Bracket

Start Qty: 20.00

Req'd Qty: 20.00

20

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Stop

Sequence ID/ Work Center ID Operation

Description

Set Up/ **Run Hours** **Tool ID**

Tool # Plan Code

Accept Qty

Reject Qty

Reject Number Stamp

Insp.

150 *150*

Identify as per dwg & Stock Location:

0.00

Run

Packaging Packaging

160

QC21- Final Inspection - Work Order Release

0.00

160

QC Quality Control

Memo

Memo

0.00

| | | | | | | | | | | | | DQA: | Da | te: | |
|---------------|----------|----------|------------|----------|-------------|--|--------|--|-------------------|------------|----|----------------|---|-----|---------------------------|
| NCR: Y | 'es / | No | | | | WORK ORDER NON-C | ON | NFORM | ANCE / UPE | DATE | 0. | - A Closed: | Da | te: | |
| | | | | | | DISPOSITION | | | | AGAINST DE | | | | | |
| Work Orde | er: | | | | | DISPOSITION | . | | | AGAIIGI DI | - | | | | , ,— |
| Part N | | | | | | Rework Scrap Use-as-is Work Order Update | | Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite | | | | | Water Jet d. Eng. Coor. e/Packaging Supplier | | Engineering Quality Other |
| | | | | | | | | | | | _ | | | | |
| Root | | | | | | ption of work order update | 1 | nitial | Act | ion | | Sign & | | | |
| Cause | | Date | Step | Qty | | or Non-conformance | Ch | ief Eng | Descr | ription | ┸ | Date | Verificatio | n | QC Inspector |
| Doc/Data | Ш | | | | | | | | | | | | | | |
| Equip/Tooling | Ш | | | | | | | | | | | | | | |
| Operator | | | | | | | | | | | 1 | | | | |
| Material | Ш | | | | | | | | | | | | | | |
| Setup | | | | • | | | | | | | | | | | |
| Other | | | | | | | | | | | İ | | | | |
| Process | | | | | | | 1 | | | | | | | | |
| Supplier | | | | | | | ļ | | | | | | | | |
| Training | | | | | | | Ì | | | | | | | | |
| Unapproved | | | | | | | | | | | | | | | |
| | | | | | | F | AUL | T CATE | GORY | | | | | | |
| Landi | ng Ge | ar | | | | General | | _ | • | | _ | | | | _ |
| | В | ending | | | | Bend | | Grain | | |]o | valized | | | Pressure/Forced |
| | C | entre No | ot Conce | ntric to | o/s | BOM/Route | | Hardwa | re | | O | ver/Under | tolerance | | Temperature/Cure |
| | Cı | racks | | | | Broken/Damaged | | Inspecti | on Incomplete | | Pa | art Incorrec | :t | | Weld |
| | C | rushed/0 | Crimped | | | Burrs | Г | Instruct | ions Incomplete/L | Jnclear | ₽a | art Lost/Mi | ssing | | Wrong Stock Pulled |
| | \Box c | uffs | | | | Contamination | | Mainte | nance | Γ | Pa | art Moved | | | - |
| | Пн | eat Trea | t | | | Countersink | | Mislabe | led | Γ | Po | ositioned W | /rong | | _ |
| | ∏lr | spection | n Strip in | Tube | | Cut Too Short | | Misread | I | | Po | ower Loss/S | Surge | Γ | Other |
| | | | | | Drill Holes | | Offset | | | _ | | | | | |

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

September-27-13 1:05:10 PM

Work Order ID:

107641

Parent Item:

D3953-21

Parent Item Name:

Gas Spring Bracket

Start Date: 10/14/13

Required Date: 10/14/13

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP RevA: new issue DD 09.11.30 verified by:EC

10.03.02 verified by:EC

IPP Rev:B as per dwg revC DD

| | | 7 | | | | | | | | | | | |
|----------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|-----------------|---------------|----------------|---------|
| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
| M304S11GA 304/316 0.125 Sheet | | Purchased | No | | | 100 | sf | 234.0633 | 0.0144 | 0.303158 O.S | | J _m | 13-11-5 |
| | | | | Location | | Loc Oty | Lo | c Code | | | | | |
| | | | | MAT020 | | 234 0632632 | | | | | | | |

| | | | | | | | , | | DQA: | Date: | |
|---------------|---------|---------------------|-----|--------|---|---------------------------------|---|------------|--------------|--------------------------------------|---------------------------|
| NCR: Y | es / No | | | | WORK ORDER NON-C | ONFO | RMANCE / UP | DATE | QA Closed: | Date: | |
| | | | | | | | | | QA Closed. | Date. | |
| Work Orde | or. | | | | DISPOSITION | | | AGAINST DE | PARTMENT | /PROCESS | |
| Part N | | | | | Rework Scrap | The | Skid-tube Crosstube Machining Small Fab Thermoforming Finishing | | | Water Jet d. Eng. Coor. re/Packaging | Engineering Quality Other |
| NCR No. | | | | | Use-as-is Thermoforming Finishing Work Order Update Large Fab Composite | | | Rec/Stor | Supplier | Other | |
| Root | | | | Descri | ption of work order update | Initial | Ac | tion | Sign & | | |
| Cause | Date | Step | Qty | (| or Non-conformance | Chief Er | g Desc | ription | Date | Verification | QC Inspector |
| Doc/Data | | | | | | | | | | | |
| Equip/Tooling | | | | | | | | | | | |
| Operator | | | | | | | | | | | |
| Material | | | ĺ | | | | | | | | |
| Setup | | İ | | | • | | | | | | |
| Other | | | | | | | | | | | |
| Process | | | | | | | | | | | |
| Supplier | | | | | | | | | | | |
| Training | | ļ | | | | | | | | | |
| Unapproved | | | | | , | | | | | | |
| | | | | | F | AULT CA | TEGORY | | | | |
| Landi | ng Gear | | | _ | General | | | _ | - | | • |
| | Bendin | 3 | | | Bend | Graii |) · | L | Ovalized | | Pressure/Forced |
| | Centre | | | | BOM/Route | Hard | ware | | Over/Under | tolerance | Temperature/Cure |
| | Cracks | | | | Broken/Damaged | Inspe | ction Incomplete | | Part Incorre | ct | Weld |
| | Crushe | d/Crimped | | | Burrs | Instructions Incomplete/Unclear | | | Part Lost/Mi | issing | Wrong Stock Pulled |
| | Cuffs | Cuffs Contamination | | | | Maintenance | | | Part Moved | | |
| | Heat Tr | eat | | | Countersink | Misla | beled | | Positioned V | Vrong | |

Misread

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Power Loss/Surge

Other

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

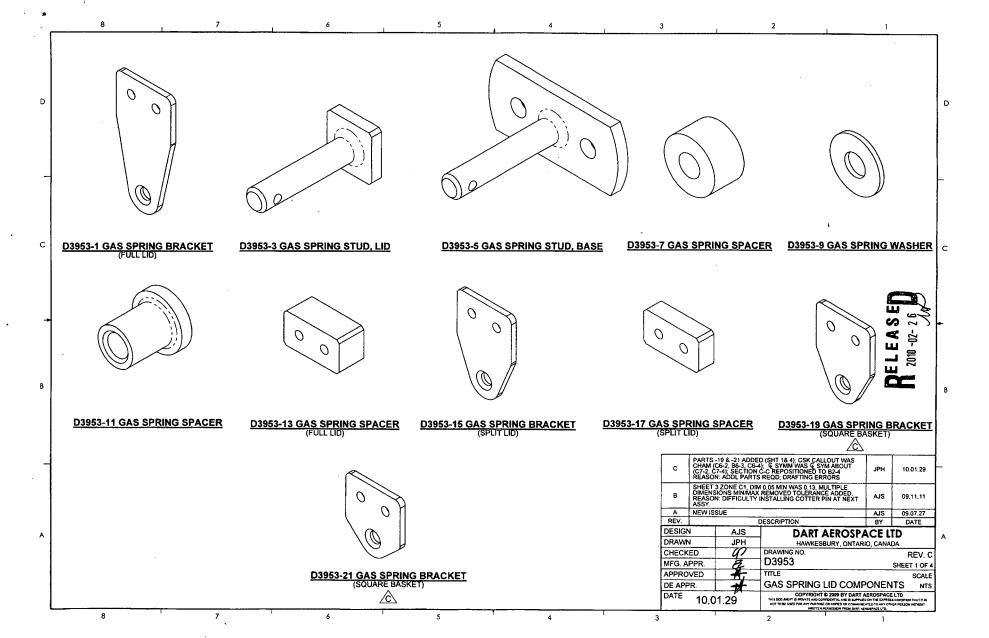
| DART AEROSPACE LTD | Work Order: | 107641 |
|---------------------------------|--------------|-------------|
| Description: Gas Spring Bracket | Part Number: | D3953-21 |
| Inspection Dwg: D3953 Rev: C | | Page 1 of 1 |

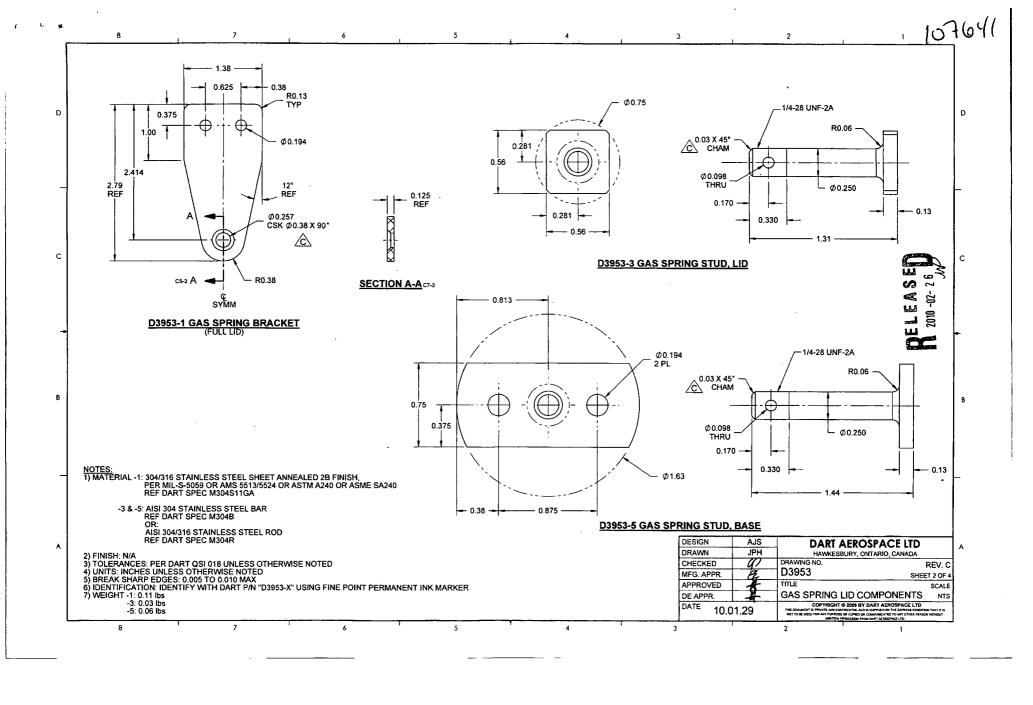
FIRST ARTICLE INSPECTION CHECKLIST

| | TROT ARTICLE INCI ECTION CITEOREIG. | | | | | | | | | | | |
|----------------------|-------------------------------------|---------------------|--------|----------|-------------------------|----------|--|--|--|--|--|--|
| Drawing Dimension | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments | | | | | | |
| Ø0.194 | +0.005/-0.001 | 0.194" | _ | | ν | Jeno 1 | | | | | | |
| Ø0.257 | +0.006/-0.001 | 0.358 | | | U | | | | | | | |
| 0.625 | +/-0.010 | 0.627" | - | | U | | | | | | | |
| 1.38 | +/-0.030 | 1.388 | - | | V | | | | | | | |
| 0.38 | +/-0.010 | 0.385 | _ | | ν | | | | | | | |
| 0.375 | +/-0.010 | 0.379 | - | | V | | | | | | | |
| 1.00 | +/-0.030 | 1.00 | - | | V | | | | | | | |
| 1.500 | +/-0.010 | 1.502" | - | | V | | | | | | | |
| 0.125 | +/-0.010 | 0.116 | - | | V | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 1 | DAS 27 | <u> </u> | | | | | | | | |

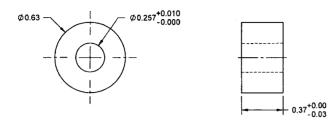
| Measured by: JM | Audited by: 9-89 | Preliminary Approval: |
|-----------------|------------------|-----------------------|
| Date: 13-11-6 | Date: 13 // 06 | Date: |

| Rev | Date | Change | Revised by | A | Approved |
|-----|----------|-----------|------------|----------|----------|
| Α | 10.06.07 | New Issue | KJ 4 | X | |





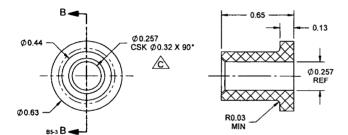
D



Ø 0.63 Ø0.257^{+0.010}

0.05+0.03

D3953-7 GAS SPRING SPACER



0.38 0.625 0.63 Ø0.194 2 PL 0.75 0.375 0.06 X 45° CHAM TYP \triangle

D3953-11 GAS SPRING SPACER

SECTION B-B B7-3

D3953-13 GAS SPRING SPACER

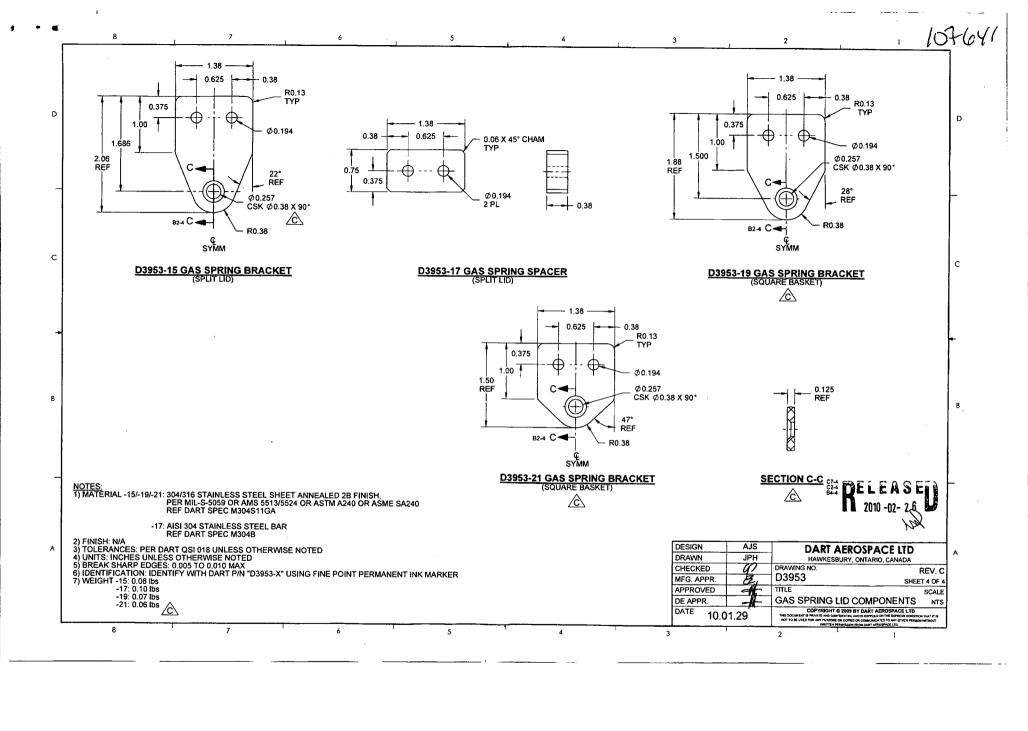
D3953-9 GAS SPRING WASHER

| NOTES: | |
|---|---|
| 1) MATERIAL -7,-9 & -11: DELRIN II 150E OR ACETRON GP ACETAL, BLACI | Κ |
| REF DART SPEC M-DELRIN-R | |

-13: AISI 304 STAINLESS STEEL BAR REF DART SPEC M304B

- 2) FINISH: N/A
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION -13 ONLY: IDENTIFY WITH DART P/N "D3953-13" USING FINE POINT PERMANENT INK MARKER
 7) WEIGHT -7/-9/-11: < 0.01 lbs EACH
 -13: 0.17 lbs

| DESIGN | AJS | DART AEROSPACE LTD | |
|---------------|------|--|-----------------------------|
| DRAWN | JPH | HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | 9 | DRAWING NO. | REV. C |
| MFG. APPR. | 3 | D3953 SHEE | T 3 OF 4 |
| APPROVED | - | TITLE | SCALE |
| DE APPR. | -14- | GAS SPRING LID COMPONENTS | NTS |
| DATE 10.01.29 | | COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS OCCUMENT IS PREVATE AND CONFIDENTIAL AND IS SUPPLED ON THE LOWES CONDITION NOT TO BE USED FOR ANY PURPOSE OF COMPED OR COMMUNICATION TO ANY OTHER PERSON NOT TO BE USED FOR ANY PURPOSE OF COMPED OR COMMUNICATION TO ANY OTHER PERSON | IN THAT IT IS IN WITHOUT |



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